Searching Smart With Standards

Using Curriculum Standards to Find Educational Resources in Digital Libraries

Anne Diekema & Sheri Haderlie
Where to find our presentation

http://digitalcommons.usu.edu/itls_facpub/500
Educational standards

A Nation At Risk (1983) / National Commission on Excellence in Education

What was unimaginable a generation ago has begun to occur--others are matching and surpassing our educational attainments.
A Nation At Risk (1983) / National Commission on Excellence in Education

We have dismantled essential support systems which helped make those gains possible.

We have, in effect, been committing an act of unthinking, unilateral educational disarmament.
We recommend that schools, colleges, and universities adopt more rigorous and measurable standards, and higher expectations, for academic performance and student conduct, ….

- Compliance, Guidance, Accountability, Evaluation, Bargaining Chip, Standardization, Communication
Standards search (as phenom)

- Teacher information seeking
- Open Educational Resources (OER)
- Alignment between standards and resources allows for standards search
- Other educational resource search options
  - grade level
  - subject area
  - resource type, etc.
Standards crosswalks

Standards crosswalks show alignments between at least two different standards. For example, AASL created a crosswalk between the CCSS and the Standards for the 21st Century Learner. Handy for collaboration between teachers and teacher librarians. Handy for standards search with limited standards options (e.g., only national standards).

http://www.ala.org/aasl/standards-guidelines/crosswalk
<table>
<thead>
<tr>
<th>AASL English Language Arts Crosswalk - Grade 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CC.3.R.F.4.b</strong> Fluency: Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.</td>
</tr>
<tr>
<td><strong>CC.3.R.F.4.c</strong> Fluency: Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</td>
</tr>
<tr>
<td><strong>CC.3.R.I.1</strong> Key Ideas and Details: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.</td>
</tr>
<tr>
<td>1.1.3 Develop and refine a range of questions to frame search for new understanding.</td>
</tr>
<tr>
<td>1.1.6 Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.</td>
</tr>
<tr>
<td><strong>CC.3.R.I.2</strong> Key Ideas and Details: Determine the main idea of a text; recount the key details and explain how they support the main idea.</td>
</tr>
<tr>
<td><strong>CC.3.R.I.3</strong> Key Ideas and Details: Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.</td>
</tr>
<tr>
<td>1.1.7 Make sense of information gathered from diverse sources by identifying misconceptions, main and supporting ideas, conflicting information, and point of view or bias.</td>
</tr>
<tr>
<td>2.1.1 Continue an inquiry-based research process by applying critical thinking skills (analysis, synthesis, evaluation, organization) to information and knowledge in order to construct new understandings, draw conclusions, and create new knowledge.</td>
</tr>
<tr>
<td><strong>CC.3.R.I.4</strong> Craft and Structure: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.</td>
</tr>
</tbody>
</table>
Digital Library Examples

Teach Engineering: https://www.teachengineering.org/search_standards.php

PBS Learning Media: http://www.pbslearningmedia.org/standards/0

OER Commons: https://www.oercommons.org/advanced-search


Library of Congress: http://www.loc.gov/teachers/

Utah Education Network (UEN): http://www.uen.org/curriculumsearch/searchParams.action
TeachEngineering

STEM content
Collaborative project between faculty, students, and teachers associated with five founding partner universities, with National Science Foundation funding

- searchable, web-based digital library collection, free activities, lessons, units and living labs, and “sprinkles”
- standards-based engineering curricula for use by K-12 teachers and engineering faculty
- applied science and math through engineering design in K-12 settings

https://www.teachengineering.org/
CURRICULUM FOR K-12 TEACHERS
Standards-aligned engineering lessons and hands-on activities for use in science, engineering, and math classrooms.
TeachEngineering Standards Search

International, national (CCSS, NGSS), and state standards, and grade level

Standards search first then refine with search terms and grade levels

Results show standard and number of “hits”
### Standards Source:

- **Common Core State Standards for Mathematics**

16 standards found

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
<th>Number of Lessons/Activities/Units Aligned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counting and Cardinality (K-K)</td>
<td>...show</td>
<td>(1 lessons/activities/units aligned)</td>
</tr>
<tr>
<td>Operations and Algebraic Thinking (K-5)</td>
<td>...show</td>
<td>(52 lessons/activities/units aligned)</td>
</tr>
<tr>
<td>Number and Operations in Base Ten (K-5)</td>
<td>...show</td>
<td>(57 lessons/activities/units aligned)</td>
</tr>
<tr>
<td>Measurement and Data (K-5)</td>
<td>...show</td>
<td>(103 lessons/activities/units aligned)</td>
</tr>
<tr>
<td>Geometry (K-8)</td>
<td>...show</td>
<td>(123 lessons/activities/units aligned)</td>
</tr>
<tr>
<td>Number and Operations &amp; Fractions (3-5)</td>
<td>...show</td>
<td>(16 lessons/activities/units aligned)</td>
</tr>
<tr>
<td>Ratios and Proportional Relationships (6-7)</td>
<td>...show</td>
<td>(122 lessons/activities/units aligned)</td>
</tr>
<tr>
<td>The Number System (6-8)</td>
<td>...show</td>
<td>(161 lessons/activities/units aligned)</td>
</tr>
</tbody>
</table>
Common Core State Standards for Mathematics: Math [2010] ...show

Current Standard:

- Number and Operations in Base Ten (K-5)
  (57 lessons/activities/units aligned)

Standard's Subset:

- Work with numbers 11-19 to gain foundations for place value, (K-K) ...show
  (no curriculum aligned)
- Extend the counting sequence, (1-1) ...show
  (no curriculum aligned)
- Understand place value, (1-2) ...show
  (no curriculum aligned)
- Use place value understanding and properties of operations to add and subtract, (1-2) ...show
  (1 lessons/activities/units aligned)
- Use place value understanding and properties of operations to perform multi-digit arithmetic, (3-4) ...show
  (17 lessons/activities/units aligned)
- Generalize place value understanding for multi-digit whole numbers, (4-4) ...show
  (no curriculum aligned)
- Perform operations with multi-digit whole numbers and with decimals to hundredths, (5-5) ...show
  (37 lessons/activities/units aligned)
Aligned Curriculum

Aligned Activities
- 20/20 Vision
- About Accuracy and Approximation
- Magnitude of the Richter Scale
- Scale Model of the Earth
- Will It Conduct?

Aligned Lessons
- The Building Blocks of Matter
- Mercury and Venus
- One Path

• Generalize place value understanding for multi-digit whole numbers. (4-4) ...show
  (no curriculum aligned)
• Perform operations with multi-digit whole numbers and with decimals to hundredths. (5-5) ...show
  (3 lessons/activities/units aligned)
• Understand the place value system. (5-5) ...show
  (8 lessons/activities/units aligned)
PBS LearningMedia

Thousands of classroom-ready, curriculum-targeted digital resources
Free resources for PreK-12 educators
Resources are aligned to Common Core & national standards

Videos and interactives, audio, documents, and in-depth lesson plans

Browse by standards, grade level, subject area, and special collections.
Social media: favorite and share resources with your class & colleagues.

http://www.pbslearningmedia.org/standards/0
PBS LearningMedia Standards Search

Browse by standard.
Select standard,
then grade,
and then keywords (optional).

Common Core (ELA, math) - college and career readiness standards, and national standards.
Browse by Standards

Browse by standards allows you to find all resources that support a given standards statement. Reference terms are assigned to each statement within a standards document and to each media resource, and correlations are based upon matches of these terms for a given grade band.

Step 1: Select Standards and documents

Type of Standards *

- Select Type of Standards

Document *

- Select Document

Browse

Step 2: Select Grades

- Pre-K
- K
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13+

Step 3: (optional) Type Keyword(s)

Search
Browse by Standards

Browse by standards allows you to find all resources that support a given standards statement. Reference terms are assigned to each statement within a standards document and to each media resource, and correlations are based upon matches of these terms for a given grade band.

Step 1: Select Standards and documents

- National Standards

Step 2: Select Grades

- Pre-K
- K
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

Step 3: (optional) Type Keyword(s)

- [ ]
Browse by Standards

Browse by standards allows you to find all resources that support a given standards statement. Reference terms are assigned to each statement within a standards document and to each media resource, and correlations are based upon matches of these terms for a given grade band.

Step 1: Select Standards and documents

Type of Standards *
- Common Core State Standards

Document *
- College- and Career-Readin

Step 2: Select Grades
- ☐ Pre-K
- ☐ K
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7
- ☐ 8
- ☐ 9
- ☐ 10
- ☐ 11
- ☐ 12
- ☐ 13+

Step 3: (optional) Type Keyword(s)

fractions
Grade 6 Introduction 6 In Grade 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

Grade 6 CCSS.Math.Content.6.NS The Number System

Grade 6 CCSS.Math.Content.6.NS.A Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
OER Commons

Digital library with open educational resources (OER)

Free resources - creative commons licenses

Users tag, rate, and review materials

ISKME nonprofit mission: improve practice of continuous learning, collaboration, and change in the education sector

https://www.oercommons.org/advanced-search
Your Commons, Their Future

We are a dynamic digital content hub offering a suite of OER supports. From roadmaps to training to tools, we'll get the right OER to your students.

OUR SOLUTION

Browse by Topic

Education / Arts / Humanities / Social Sciences / Natural Sciences / Applied Sciences & Technology / Mathematics & Statistics
OER Commons Standards Search

Regular search combined with additional criteria such as standards, grade level, subject, language, material type, rating, etc.
Standards search only at highest level. Drill down only at individual resource
Alignment not visible in results set (implicit in ranking)
Advanced Search

Search Resources

Enter one or more Keywords then click the Search button.

You may also refine your search further by choosing additional criteria from the list below before clicking on Search.

Search by Language

Education Standards:

- Next Generation Science Standards
- Common Core State Standards Math
- Common Core State Standards English Language Arts
- Minnesota ELA Standards

Subject Area

- Arts
- Business
- Humanities
- Mathematics and Statistics
- Science and Technology

Rubric Evaluated

- Achieve Rubric
- EQiP Rubric

Content Source

- Open Author Resources
Search results: fractions (78)

Selected filters: 6
- Common Core State Standards Math
- Mathematics and Statistics

1. Fractions
   - This interactive Flash applet can be used to compare and explore equivalence ...
   - (more)
   - Subject: Mathematics, Education
   - Material Type: Activities and Labs, Instructional Material, Interactive
   - Provider: Maryland Public Television
   - Provider Set: Mathlanding: Elementary Mathematics Pathway

2. Algebra: Fractions
   - Today we are going to work on our fraction knowledge with some ...
   - (more)
   - Subject: Mathematics and Statistics, Mathematics, Education
   - Material Type: Activities and Labs, Games, Instructional Material
   - Provider: Instructional Architect
   - Provider Set: Instructional Architect
   - Author: Ms. Jackson
Fractions

Abstract: This interactive Flash applet can be used to compare and explore equivalence among fractions, decimals and percentages. It allows a child or teacher to represent fractions on one or more fraction strips, and to color individual parts. Each displayed strip can be labelled as a fraction, a decimal (to three decimal places) or a percentage; the ratio of yellow to green parts of each strip can also be displayed. It lends itself well to use with an interactive white board. A pdf guide to this collection of teaching applets is cataloged separately.

Comments:
Rational Number Project: Initial Fraction Ideas
The Rational Number Project (RNP) advocates teaching fractions using a model that ...

Subject: Mathematics and Statistics, Mathematics
Material Type: Activities and Labs, Assessments, Homework and Assignments, Instructional Material, Lesson Plans, Teaching and Learning Strategies
Provider: Maryland Public Television, University of Minnesota
Provider Set: Mathlanding: Elementary Mathematics Pathway, University of Minnesota
Author: Kathleen Cramer, Merlyn Behr, Richard Lesh, Thomas Post

Fantastic Fractions!
Use these activities to practice your fractions First, find equivalent fractions by ...

Subject: Mathematics and Statistics, Mathematics, Education
Material Type: Activities and Labs, Instructional Material
Provider: Instructional Architect
Provider Set: Instructional Architect
Author: Mrs. Porock
Promethean Planet

“Created by teachers, for teachers, … a unique teaching, sharing and support community -- your place to connect, create, and change the classroom.”

Choose by State or Common Core or National Standard
Choose Subject
Choose Grade
Search by State Standards
Search for lessons by State Standard with Promethean Planet

Search by State Standards:

- Common Core
- Science
- 10th Grade

Optional: Type in keyword

Please select some options for your search
Utah
10th Grade
Science
l.1.c. Distinguish between speed and velocity.
   • Acceleration

Utah
10th Grade
Science
l.1.d. Determine and compare the average and instantaneous velocity of an object from data showing its position at given times.
   • The Tides

Utah
10th Grade
Science
l.2.a. Determine the average acceleration of an object from data showing velocity at given times.
   • Acceleration
ACCELERATION

Description
Acceleration flipchart using Kagan Structures.

Resource Details
Submitted By: Brad Porinchak
Submission Date: February 14, 2008
Resource Type: Lessons & Instructional Materials
Grade: 9-10, 11-12
Subject Area: Physics & Physical Science
File Format: ActivPrimary/ActivStudio Version 3 flipchart
File Size: 151.09 KB

Download
“...classroom materials and professional development to help teachers effectively use primary sources...”

Lesson plans and more by Common Core, state content standards, or the standards of national Organizations.

http://www.loc.gov/teachers/
Search Our Classroom Materials by Standards

Common Core
State Content
Organizations

State
Common Core State Standards
Grade
1
Subject
English Language Arts
Search

Search Our Classroom Materials by Standards

Common Core
State Content
Organizations

State
Utah
Grade
1
Subject
Library / Technology
Search

Search Our Classroom Materials by Standards

Common Core
State Content
Organizations

State
National Organizations
Grade
1
Subject
Social Studies: NCSS and NSCG
Search
Common Core State Standards, Grade 4

- CCSS.ELA-Literacy.RL.4
  - Strand: Reading Standards for Literature

- CCSS.ELA-Literacy.RL.4.1
  - Standard: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.

8 Classroom materials:
- 2 Primary Source Set
- 1 Lesson Plans
- 1 Presentations
- 4 Collection Connections
Primary Source Sets

Civil War Soldiers’ Portraits: The Liljenquist Family Collection
A selection of Library of Congress primary sources exploring the Civil War portraits in the Liljenquist Family Collection of Civil War Photographs from the Library of Congress. This set also includes a Teacher’s Guide with historical context and teaching suggestions.

Found Poetry
A selection of Library of Congress primary sources exploring found poetry and the ability to retell history from one’s own perspective. This set also includes a Teacher’s Guide with historical context and teaching suggestions.

Lesson Plans

The Civil War Through a Child’s Eye
Students use Library of Congress primary sources to examine the Civil War from a child’s perspective.

Presentations

Women Pioneers in American Memory
This presentation uses Library of Congress primary sources to provide a comprehensive look at the stories of women who forged ahead to make a better life for themselves, their families, and their societies in the Westward expansion.

Collection Connections

American Notes: Travels in America
Historical context and ideas for teaching with primary sources from the Library of Congress Travels in America, 1750-1920.

Florida Folklore from the WPA Collections, 1937-1942
Historical context and ideas for teaching with primary sources from the Library of Congress Folklore from the WPA Collections, 1937-1942.
Utah Education Network

Connects all Utah school districts, schools, and higher education institutions to a robust network and quality educational Resources

http://www.uen.org/curriculumsearch/searchParams.action
Course Description

Core Standards of the Course

Domain: Ratios & Proportional Relationships

Analyze proportional relationships and use them to solve real-world problems.

1. Compute unit rates associated with ratios of fractions, including proportions of lengths, areas, and other quantities measured in like or different units.

person walks 1/2 mile in each 1/4 hour, compute the unit rate.
Become Standards Search Savvy

Get a handle on all applicable standards
Find crosswalks between standards or create your own
Maintain list of digital libraries with standards search
Note search options
Share with teachers (professional development, etc.)
Real life

Please share your own standards search experiences
Reference

Additional digital libraries

with standards search options

Other libraries we found but did not demonstrate

gooru: http://www.goorulearning.org/#home

ABC Teach: http://abcteach.com

NSDL: http://nsdl.oercommons.org

CK-12 Foundation: http://www.ck12.org
Where to find our presentation

http://digitalcommons.usu.edu/itls_facpub/500